KIN3085-1 FA21 - Pathology Of Injury And Illness

Jump to Today



*** THIS SYLLABUS WILL UNDERGO MINOR UPDATES CONTINUOUSLY THROUGHOUT THE SEMESTER ***

Midterm and final exam dates will not change. Neither would the grading scheme.

Major critical updates will be additionally announced under "Announcements."

PLNU Logo Clear.png

Department of Kinesiology

KIN 3085 --- 3 Units (formerly ATR 3085)

PATHOLOGY OF INJURY AND ILLNESS -- FALL 2021

Course Instructor:

Dr. Jehnan Liu, MD PhD Adjunct Professor, PLNU

Emergency Physician

Sharp Grossmont Hospital Emergency

Department

Email: jliu@pointloma.edu

Meeting times: Thursdays

1:30 PM - 4:00 PM

(Break at approx 2:30 - 2:35 PM)

Meeting location:

Kinesiology Building -- Classroom 2

Teaching Assistant:

Jessie Dolan jcdolan0610@pointloma.edu

Format: In Person

(Please see below, with regards to Covid-19 pandemic)

SAVE THESE DATES!

Midterm Exam: Thursday, October 21,

2021

Dr. Liu's Office Hours:

- After class outside Kinesiology Building Classroom #2
- Appointments via Phone/Zoom, upon request.

1:30 PM - 4:00 PM	
Final Exam: Thursday, December 16, 2021 1:30 PM - 4:00	
PM	
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PLNU Mission

To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

INTRODUCTION/WELCOME PODCAST

Explains this course and expectations.

https://pointloma.zoom.us/rec/share/dbubW1Z_MIo7ExhXdWCDHnBgabVhPdLuUSid-TTXDVTO4DUSnbI63yQyxI0xUIju.bmr1E08MfBrqEzn-(https://pointloma.zoom.us/rec/share/dbubW1Z_MIo7ExhXdWCDHnBgabVhPdLuUSid-TTXDVTO4DUSnbI63yQyxI0xUIju.bmr1E08MfBrqEzn-)

Passcode: vdO78Pf@

COVID-19 PANDEMIC

Thank you in advance for your ongoing patience as we tread through another semester submerged in far-from-ideal conditions. I will try to make this course as bearable as possible during this difficult time. Keep in mind that there are lots we do not know about Covid-19, and that "absence of proof is not proof of absence." Please abide by public safety guidelines, wear a mask properly, protect yourselves, and always exercise good judgement (in addition to following rules).

Wishing you and your loved ones good health!

WELCOME!

Hello and welcome to KIN 3085! I am thrilled to be here, and hope this class will be worthwhile for us all. I am honored to be a part of your educational journey. I am currently a full-time emergency medicine physician at Sharp Grossmont Hospital. I joined the PLNU family in January of 2020 as the instructor for this class. This is my fourth semester teaching this course, and it never gets old. Prior to the pandemic, I was also a preceptor in the emergency department for PLNU's KIN4088C internship class. I received my B.S. in Bioengineering at University of California, Berkeley, and M.D./Ph.D. from The University of Toledo. My Ph.D. research project explored how high fat exacerbates prostate cancer progression. I completed my emergency medicine residency at William Beaumont Hospital in Royal Oak, Michigan (near Detroit). My teaching experience (other than KIN 3085) includes teaching MCAT physics & general chemistry and English to kindergarteners in Danshui, Taiwan. I am a native of San Diego, and am glad to be living here since 2016. I am living in the area with my wife and two daughters.

COURSE DESCRIPTION

To sum up, "Pathology of Injury and Illness" (KIN 3085) is a hybrid between science and medicine.

The course primarily explores the pathophysiologies (mechanisms) that govern various diseases. While this course delves into topics organ-system by organ-system, there is a high degree of bridging concepts across the systems. Therefore, an overall broad understanding of normal physiology is strongly encouraged.

Additionally, this course is unique in that a large portion of the material will be presented from a clinical perspective, commonly involving discussions of real-life patient scenarios. For many of the diseases discussed, risk factors, signs, symptoms, physical exam findings, differential diagnoses, diagnostic modalities, lab tests, and basic management plans will be explored. Many common life-threatening diseases encountered in the emergency department will be emphasized. Although medical knowledge has no boundaries, this course will familiarize students with the basic "language" used across many clinical settings.

We hope to provide a strong foundation to what students will be using out there in the future!

This class is meant to be fun and enlightening! Enjoy!

COURSE LEARNING OUTCOMES (OBJECTIVES)

- 1. Learn scientific and medical terms commonly used in health care settings
- 2. Describe the pathological mechanisms of human diseases
- 3. Be familiar with the common and life-threatening disorders related to each major organ system
- 4. For certain diseases, be familiar with common history and physical exam findings
- 5. For certain diseases, be able to come up with differential diagnoses (i.e. common possibilities and mimics)
- 6. For certain diseases, be able to choose lab tests and imaging modalities that would rule in or rule out the differential diagnoses
- 7. For certain diseases, be able to describe basic management plans
- 8. Given a common chief complaint (e.g. chest pain), derive a list of possible life-threatening conditions
- 9. Understand pharmacological mechanisms against certain diseases
- 10. Better prepare for success in medical settings and get a broad sense of what the medical profession entails
- 11. Learn how to communicate medical cases with other health care professionals
- 12. Enhance problem solving skills via information gathering and data interpretation
- 13. Establish a strong foundation for graduate level coursework related to science and/or medicine
- 14. Keep up to date with familiarity of journal article(s) in medical/scientific literature
- 15. Overall increase literacy of the health care to take command of the health of you and your loved ones

TEACHING ASSISTANT (TA)

Jessie, our teaching assistant, has multiple roles for this course. She is not just a person who grades exams. She also plays a huge role in the designing of course content, relaying feedback to me in real time, and assisting students seeking to perform better (or even maintaining excellent performance) in the class. If you are struggling and need advice on how to improve, she is a wonderful resource. She is my eyes and ears, and in close communication with me regarding the class. Jessie just took the course last semester, has done phenomenally, and is still familiar with the course material.

COURSE FORMAT

Class sessions are, for now, in person. To be clear, the in-person format will always be the preferred and default format. However, as a precaution to the Covid-19 pandemic and the rising delta variant, if I feel that it is unsafe to meet in person, the format will be emergently changed to remote, using Zoom. This abrupt switch, if necessary, has been approved by administration already. And I am fully prepared to make this transition if the need arises. Please understand this, so there are no surprises. (And hopefully, would be switched back to in-person once deemed more safe again.)

LECTURE FORMAT

The majority of the course will involve taking notes - the old fashioned way, written out by hand, in real-time. Students are highly encouraged to take/write their own notes. Writing things out will allow for kinesthetic learning and will make retention of material significantly easier. It is highly discouraged to simply read someone else's notes or even my notes posted on Canvas.

From time to time, there will be interactive "Crack the Case" presentations, when students will pretend to be a patient with a particular disease of interest (see below for further details). We will also briefly summarize "Hot Off the Press" articles. These parts of the course are fair game on exams. PDF's of lecture notes will be posted on Canvas. But again, take your own notes, as what is written may be abridged.

SUPPLIES TO ROUTINELY BRING TO CLASS

- 1. Notebook and/or paper to jot notes on
- 2. Writing tools (preferably multiple colors)
- 3. Recommended textbook (see below)
- 4. Old class notes that may help jog your memory (e.g. physiology notes)

COMMUNICATION VIA CANVAS ANNOUNCEMENTS:

This is the way I communicate important announcements for the course. Please check your message frequently. In general, I would expect messages to be at least read within 48 hours.

RECOMMENDED TEXTBOOK

"The Nature of Disease: Pathology for the Health Professions, 2nd edition" ---- by Thomas H. McConnell

This textbook has excellent figures that may be referred to from time to time. But remember, if the material is not discussed in class, it you do NOT need to know it for the course. The resource, while recommended, is meant to be supplemental and to clarify unfamiliar concepts. Certain material (e.g. clinical aspects) in this course are not covered in the book. Again, it is best to pay very close attention in class.

CANVAS

The main sections I'll be using throughout the semester are:

- Syllabus contains backbone information about the course (continuously updated, with critical updates being announced)
- Modules contains detailed agendas, and notes for class sessions (nothing to turn in....just a repository)
- 3. Announcements a way for me to communicate with students
- 4. Assignments where "Crack the Case" is to be uploaded
- 5. Grades tracking student progress

EXAM PREPARATION

Know the following very well:

- 1. Lecture Material
 - A nice review-outline can be generated if you compile all the "Agendas" together from "Modules."
- 2. "Crack the Case" discussions
- 3. Skills Labs Video(s)
- 4. "Hot Off the Press" discussions
- 5. Review session recording (if provided)
- 6. Exam style: Old exam questions from Spring 2020, Fall 2020, and Spring 2021 are posted. While content varies from semester to semester, the flavor of questions are similar. Students are encouraged to become familiar with the style. Some questions (covering the same material) may even serve as good learning tools to solidify concepts.

Other tidbits:

- 1. Take-home quizzes will be released approximately one week prior to the due date. Although it's open-resource, do NOT make it into a game of "treasure hunting" without studying beforehand. It is actually encouraged to take the quiz as if it was closed-resource. This is the way to best prepare for the proctored midterm and final.
- 2. Keep up with the material! Although there is little "busy-work" involved in this class, the trade-off is that strong discipline is required to pace yourselves.
- Any material NOT discussed in class will NOT be on the exams.
- 4. You may run into "Bonus Question(s)," for extra credit points, which will either be based on prior material or a tad bit more challenging.
 - (e.g. Quiz #2 may have a question on material from Quiz #1)
- 5. Microscope slide images (such as those in the textbook) will NEVER be on exams.
- 6. Make-Up Midterm/Final: Offered for dire circumstances only. Questions will be drastically different, fewer in number, and more challenging/tedious. It is best to avoid this situation.
- 7. Questions may be similar (but will not be recycled) from exams from prior semesters (scroll down

below). Exams from prior semesters are available, bearing in mind that material does vary from semester to semester. This is NOT a "canned" course. Discussions, "Crack the Case," "Hot Off the Press," all vary.

- 8. It helps to go over current semester exams (e.g. reviewing what you missed in Quiz #1 to study for Final). In fact, midterm and final are intentionally made to review concepts that appeared on earlier exams of the same semester.
- 9. Questions that ultimately do no perform well will be thrown out (i.e. the entire class would be awarded the points).

"PROCTORING" FOR MIDTERM AND FINAL EXAM

In nutshell, proctoring will be done in person in the classroom between 1:30 PM and 4:00 PM.

BONUS QUESTIONS ON EXAMS FOR EXTRA-CREDIT POINTS

The purpose of "Bonus Questions" is three fold:

- (1) To compensate for any other point(s) in the course you may feel unfairly earned
- (2) To give a chance to "boost" for borderline grades
- (3) To encourage students to keep reviewing old material.

Bonus questions will tend to cover old material and/or tend to be more challenging than the rest of the questions. At the end of the semester, grades such as "89.4%" will NOT be rounded up to an A-. Again, that is why these bonus questions are there in the first place.

WORDS OF WISDOM ADVICE FROM PRIOR TOP-PERFORMING STUDENTS

The following are excerpts from prior KIN 3085 students who have performed exceptionally well:

"Doing classes through zoom is challenging but with the recorded lectures and the notes you posted, I was able to go back and get clarification on anything I may have missed. I made notecards after each lecture and I just studied with those. I don't have any huge secret but I do have a method of ranking the information from the notes that probably helped me the most. ... None of us can memorize every bit of information you gave us, so after each lecture I would "triage" the information based on how likely I thought it was to appear on the exam. I would literally circle things in either red/yellow/green and use those categories to prioritize how I studied my notecards. There's definitely an art form to "triaging" like

this that I have developed over the years and I can absolutely go more in depth about what sort of things I use to decide which category a certain piece of information falls into."

"...as long as students put in the appropriate prep time for quizzes/exams (not cramming a few days before), then they should do well"

"One thing I found really helpful was writing mechanisms in a different color!! Makes them memorable and easy to find while reviewing!"

"Something that really helped me in path class was using Anki cards! Anki is a free app that you can download on your computer that you can create flashcards on and it uses spaced repetition based on how hard the content is for you!"

Do the take-home tests "without notes first....it is extremely helpful for the midterm and final exams to study for those quizzes like they were closed-note and gain early understanding."

DISCLAIMER ON MEDICAL ADVICE

A significant amount of medical knowledge will be discussed in this class. Although my goal is to make the material as relevant as possible to the real world, remember that these discussions are primarily for academic purposes. Some students may ask me for medical advice directly, or somehow try to relate themselves to a case discussed in class or an exam question. Although I can certainly provide opinions in the context of course material, nothing I mention should be construed as formal medical advice. If you need formal evaluation, please go see your doctor, go to the emergency room, or dial 9-1-1 for suspected life/limb threatening conditions (e.g. chest pain with cardiac risks, stroke-like symptoms, etc...). Bear in mind that this course and its material (e.g. lecture notes, exam questions, Crack the Case presentations, etc....) are a gross over-simplification of knowledge used to make real-world medical decisions.

COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 3 unit class delivered over 15 weeks. Specific details about how

the class meets the credit hour requirement can be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

Distribution of Student Learning Hours

Category	Time Expectation in Hours	
Online Participation in Discussions, Groups,		
etc.	35	
(i.e. classroom/Zoom time)		
Reading Assignments	64.5	
(i.e. study timereading and reviewing notes)		
Written Assignments	0	
(no writing assignments in this class)	U	
Other Assignments & Learning Activities		
(i.e. "Crack the Case" assignment & Skills	3	
Labs)		
Quizzes, Surveys	10	
(i.e. take-home quizzes)	IU	
Total Hours	112.5	

This is obviously an extremely gross estimation... as students will come from different background and study habits.

TENTATIVE COURSE SCHEDULE AND ASSIGNMENTS

Topics (listed below) may be modified or shuffled as the semester progresses.

Included sporadically but NOT listed below, are: (scroll below for details on these three)

- 1. "Crack the Case"
- 2. "Hot Off the Press"
- 3. "Covid Corner"

Later in semester, "Modules" will contain more accurate agendas.

Quizzes, Midterm, and Final exam dates will NOT change (unless extreme circumstances arise)

Quiz #1, Quiz #2, Midterm, and Final Exam are due at 4:00 PM on the day of class. Case Report is due at 11:59 PM

9/22/21, 7:28 AM

Sept. 2 Vital Signs

Blood Tests

Shock

Oct. 28 Cardiovascular

Sept. 9 Mental Illnesses

Toxicology

Nov. 4 Respiratory

Sept. Biostatistics

16 Cancer

Inflammation
Wound Healing

Nov. 11 Gastroenterology

Sept. Take Home Quiz #2

Due

23 Hypersensitivity

Immunology

Nephrology

Sept. Take Home Quiz #1

OB/GYN

30 Due

Dec. 2

Nov. 18

Infectious Diseases

Case Report Due

Oct. 7

Endocrinology **Dec. 9** Neurology

Oct. 14

Hematology Dec. 16 FINAL EXAM

Oct. 21 MIDTERM

ASSESSMENT AND GRADING POLICIES

Grades will be based on the following:

TOTAL: 1000 points

9/22/21, 7:28 AM

Quiz#1 (take home) 150 points

Midterm (proctored) 200 points

Quiz#2 (take home) 150 points

Final Exam (proctored) 300 points

Skills Labs (online videos) 50 points

"Hot Off the Press" (readings)

Case Report 150 points

Standard Grade Scale Based on Percentages

Α	В	С	D	F
A 93-100	B+ 87-89	C+ 77-79	D+ 67-69	F Less than 59
A- 90-92	B 83-86	C 73-76	D 63-66	
	B- 80-82	C- 70-72	D- 60-62	

- 1. Late submissions: If an assignment ("Crack the Case," Quiz#1, Quiz#2) is late, you may still complete it, but will only 70% maximum grade for that assignment. If you do not show up for the Midterm and Final, you will need to complete any entirely different set of questions, which may be tedious.
- 2. Grade entries: We are all human, and mistakes do happen. We all do our best to avoid them. But it is the student's responsibility to make sure the ultimate grade entries are accurate. If there is a discrepancy, please address them to me ASAP.

SUBMITTED ASSIGNMENTS AT-A-GLANCE: 5 total

Quiz#1 (submit marked up hard copy in person in class on due date)

Midterm (submit marked up hard copy in person at the end of exam)

Quiz#2 (submit marked up hard copy in person in class on due date)

Final Exam (submit marked up hard copy in person at the end of exam)

Case Report (submit electronically on Canvas)

CASE REPORT: Due Thurs. 12/2

- -- Please submit under "Assignments"
- -- MUST select a disease of interest that has NOT been used in "Crack the Case"
- 1. Pretend to be the patient. Write down your symptoms. (25 pts)
- 2. Write out the patient's medial history, surgical history, medications, allergies, social history, and family history. (6 pts)
- 3. Write out the patient's vital signs. (10 pts)
- 4. Write out the patient's physical exam findings (25 pts)
- 5. Write out list of differential diagnoses (30 pts)
- 6. Write out what lab tests you'd like to order, and their results (20 pts)
- 7. Write out what imaging tests you'd like to order, and their results (5 pts)
- 8. Write out any medications given (10 pts)
- 9. Write out a management plan other than medications (e.g. procedures, fluids, positioning, etc.) (10 pts)
- 10. What is their disposition (home, admission)? (5 pts)
- 11. What consultants/specialists are involved? (4 pts)

SIDEBAR: This assignment is waived for those who volunteer to do the "Crack the Case" presentations

"CRACK THE CASE" NOTHING TO TURN IN, BUT FAIR GAME ON EXAMS

In other words, these are medical cases we will discuss in lecture. I encourage you to print out and use the provided "Crack the Case Template" (below this paragraph) to take notes. Have at least 2-3 templates printed for each class session. Material discussed here are fair game on the exams. Student volunteers are needed to "act out" the patient during class. The rest of the class will try to solve the case. Not every student will need to volunteer. As mentioned above, students who volunteer will get "Case Report" waived.

Template: <u>CrackTheCaseTemplate.pdf</u> ↓

(https://canvas.pointloma.edu/courses/57783/files/4629264/download?download_frd=1)

Normal laboratory values: https://www.nbme.org/sites/default/files/2020-

07/Laboratory Reference Values.pdf

"HOT OFF THE PRESS" NOTHING TO TURN IN, BUT FAIR GAME ON EXAMS

Essentially, these are recent journal articles from the medical/scientific field, that are selected by me. I will try to select topics that at are useful. Please read them. Key points will be summarized and discussed in class.

ARTICLES:

"COVID CORNER" NOTHING TO TURN IN, BUT FAIR GAME ON EXAMS

These are intermittent discussions of Covid-19 during class time. It explores new updates from the scientific/medical community.

SKILLS LAB VIDEOS NOTHING TO TURN IN, BUT FAIR GAME ON EXAMS

Due to the conditions of the Covid-19 pandemic, videos (rather than hands-on activities) will be assigned. We will use the honor system, and there is nothing to submit.

VIDEO LINKS:

 Central Venous Catheter (CVC, i.e. "central line") placement https://www.youtube.com/watch?v=qeVdRCqy_mo

"FIRESIDE CHATS" NOTHING TO TURN IN. TOTALLY OPTIONAL.

A few minutes before class, there is an opportunity for students to ask general questions about the the field of medicine/science, career advice, class material, etc... It's also a chance for us to get more face time and get to know one another better (between students, between student and me, etc.). I may be munching on my lunch at this time (apologize in advance for this).

OLD EXAMS (File name should be self-explanatory)

Spring 2020

Midterm-Spring2020-Blank.pdf ↓

(https://canvas.pointloma.edu/courses/57783/files/4626518/download?download_frd=1)

Fall 2020

Quiz1-Fall2020-Key.pdf

↓ (https://canvas.pointloma.edu/courses/57783/files/4629071/download? download frd=1)

SPRING 2021:

(https://canvas.pointloma.edu/courses/57783/files/4629083/download?download_frd=1)

LAST BUT NOT LEAST

Just a little piece of advice for our class.... and beyond. Please do not be afraid to ask for help. The worst thing to do for this class is struggling then not asking for help. And when seeking help, ask early, preferably around midterm time at the latest. Do not wait until the end of the semester, when most of the grade is already etched in stone. I want to you all to succeed in this class and your careers!

GENERAL UNIVERSITY-WIDE POLICIES:

STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on State Authorization (https://www.pointloma.edu/offices/office-institutional-effectiveness-research/disclosures) to view which states allow online (distance education) outside of California.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See <a href="Maintenance Long-point Lon

PLNU ACADEMIC ACCOMMODATIONS POLICY

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. (DRC@pointloma.edu (mailto:DRC@pointloma.edu) or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and

guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Online Format

Students taking online courses are expected to attend each week of the course. Attendance is defined as participating in an academic activity within the online classroom which includes posting in a graded activity in the course. (Note: Logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.)

Students who do not attend at least once in any 3 consecutive days will be issued an attendance warning. Students who do not attend at least once in any 7 consecutive days will be dropped from the course retroactive to the last date of recorded attendance.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the <u>Office of Spiritual Development</u> (https://www.pointloma.edu/offices/spiritual-development)

USE OF TECHNOLOGY

In order to be successful in the online environment, you'll need to meet the minimum technology and system requirements; please refer to the <u>Technology and System Requirements</u> (https://help.pointloma.edu/TDClient/1808/Portal/KB/ArticleDet?ID=108349) information.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.

Course Summary:

Date Details Due